

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Industrial Pallet of Sheet Material

5 I, LOUIS DAVIDSON, a citizen of the United States of America, of 24 Waterview Road, Oceanside, Long Island, New York, United States of America, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 This invention relates to folding industrial pallets which are of low cost and can be disposed of after shipping in loaded condition to a customer. The preferred embodiments of the invention relate to sheet material pallets of the type in which leg panels are severed from the pallet along three sides and adapted to hinge downwardly along the fourth side and then fold back to form a pallet leg.

15 It is an object of the invention to provide an improved pallet of the character indicated and more especially to provide pallets in which the sides of the leg panels converge toward their mid regions to form legs which are wider at their upper ends. This construction permits the edges of the pallet, from which the leg panels are displaced, to be notched or recessed to receive the wide top edge at the free end of the panel leg.

20 Another object of the invention is to provide a pallet construction in which leg panels are severed from the platform of a pallet and the leg panels are displaced from the full thickness of the pallet platform with the free end of the leg panel broader than the opening through the pallet at about a mid region of the opening so that part of the free end of the leg panel rests against the bottom of the pallet when the leg panel is folded into operative position.

25 30 35 40 Other features of the invention relate to constructions of the pallet platform and the leg panels by which the upper ends of the leg panels extend into horizontal recesses under the pallet platform, and by which the pallet

legs are formed of several layers of paper board (which may be corrugated paper board) or other sheet material for stiffening them when folded into operative position.

With the constructions of this invention, the pallets are more economical to manufacture and are brought to such a low cost that they can be treated as disposable units, thus eliminating the inconvenience and cost of returning pallets after they have been used for the delivery of sheet material or other objects which are supplied on pallets. Some embodiments of the invention can be made with a single die cut.

Other features and advantages of the invention will appear or be pointed out as the description proceeds.

In the drawing, forming a part hereof, in which like reference characters indicate corresponding parts in all the views;

Figure 1 is a bottom plan view of a pallet made in accordance with this invention;

Figure 2 and 3 are enlarged sectional views taken on the lines 2—2 and 3—3, respectively, of Figure 1, but with the leg panels folded into operative position;

Figure 4 is an enlarged, fragmentary, bottom plan view of a modified form of the invention shown in Figure 1;

Figure 5 is a sectional view taken on the line 5—5 of Figure 4, but with the leg panel folded into operative position;

Figures 6 and 7 are sectional views, similar to Figure 5, but showing other modified forms of the invention;

Figure 8 is a fragmentary, bottom plan view of another modified form of the invention; in which the leg panel is displaced from the full thickness of the pallet platform;

Figure 9 is a sectional view on the line 9—9 of Figure 8, but with the leg panel folded into operative position;

Figure 10 is a sectional view taken on the line 10—10 of Figure 9;

Figure 11 is a fragmentary end view of a pallet showing several different kinds of legs made in accordance with this invention;

5 Figures 12, 13 and 14 are enlarged, fragmentary views showing the various legs of Figure 11 before the material is folded to form the bottom of the leg;

10 Figure 15 is an enlarged end view showing a modified form of the left-hand leg of Figure 11;

Figure 16 is a sectional view showing the way in which a leg is formed from the material displaced from the platform;

15 Figure 17 is a fragmentary, top plan view of a pallet platform showing the area of material displaced to form one of the legs;

Figures 18 and 19 are fragmentary views, similar to Figure 17, showing modifications of the structure of Figure 17; and

20 Figures 20, 21 and 22 are enlarged sectional views taken on the lines 20—20, 21—21 and 22—22, respectively, of Figure 17, but showing the legs in working positions;

25 Figure 3 is a top plan view of the hinge shown in Figure 12; and

Figure 24 is a fragmentary, sectional view showing a modified construction for a hinge line where the leg connects with the top portion of the pallet.

30 Figure 1 shows a pallet 15 having a plurality of leg panels 17 severed from the material of the pallet along three sides 18, 19 and 20. Each leg panel remains connected to the pallet along a line 21 and the leg panel is adapted to hinge along the line 21. This line 21 is a score line in the preferred construction of the invention.

40 The opposite side edges 18 and 20 of the leg panel converge as they extend away from the side 19 which forms the free end of the leg panel. There is a score line 24 at a mid region of the leg panel 17 and the leg panel is folded back along this score line 24 after being hinged downwardly along the score line 21 in the manner illustrated in Figure 2.

45 This construction provides a leg panel in which the free end 19 (Figure 1) is wider than the mid portion of the panel. The side edges of the space in the pallet from which the leg panel is displaced is formed with recesses 26 into which the free end 19 of the leg panel is inserted when the panel is folded into operative position. When a pallet is to be set up permanently, greater strength and more rigidity when handling can be obtained by applying glue or other adhesive to secure the upper edge of leg panel 17 in the recess 26. Such adhesive is indicated by the reference character 27 in Figure 2. The other modifications of the invention can be similarly treated if set up for permanent service.

60 In the preferred construction, material displaced from the recesses 26 may be left on the edges 18 and 20 as outwardly extending lugs 28. The advantage of this construction

is that there is no waste material to be disposed of in the manufacture of the pallets, and the lugs 28 left on the edges of the panel 17 are not objectionable, although they perform no function. It will be understood that the panels 17 can be made without the lugs 28 if manufactured by a process where disposal of waste punchings presents no problem; and it will be understood further that the side edges of the panel 17 can be different in other ways from the shape of the openings from which they are displaced if other waste material is punched from the pallet between the edges of the panel and the confronting edges of the space from which material is displaced.

80 As the pallets are originally supplied by the manufacturer, the leg panels 17 are flush with the bottom surface of the panel 15. In order to make it easier to hinge the panels 17 away from the bottom surface of the pallet 15, notches 30 are provided along the free edge 19. A screwdriver or other implement can be inserted into the notch 30 in order to get behind the leg panel 17 to pry the free end out from the bottom surface of the pallet.

90 The number of leg panels 17 depends upon the size of the pallet and upon the size of the legs. It is a feature of the invention that the leg panels are located in rows and spaced from one another. The rows must be located so as to leave the bottom of the pallet unobstructed, when the legs are in operative position, for contact with the forks of a lift truck. The pallet 15, shown in Figure 1, is a "four-way" pallet because the leg panels 17 are in rows which extend not only lengthwise of the pallet but also crosswise. The forks of lift trucks can, therefore, be inserted under the pallet 15 from any one of the four sides of the pallet.

105 Figure 2 shows the leg panel 17, in dotted lines, in the process of being folded along the score line 24 to form a leg for the pallet 15. The panel 17 is shown in full lines in its operative position with the free edge 19 of the pallet inserted into the notches 26 to prevent transverse displacement of the free end of the leg panel. Adhesive can be used in the recess 26 to connect the free end 19 to the pallet, but in the preferred construction this is not necessary because the panel thrusts against the side of the recess 26 with sufficient force to provide enough friction to hold the free end 19 in the recesses 26.

120 The pallet 15, shown in Figures 2 and 3, has an upper layer 32 and a lower layer 34. Each of these layers is made of two-ply (double flute) corrugated paper board, and each of the leg panels 17 is severed on lines 18, 19 and 20, from the bottom layer 34 before the layers 32 and 34 are connected together during the manufacture of the pallet. Since the upper layer 32 is imperforate, it provides an end wall in the recesses 26, and support across the entire space between the

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recesses, against which the free end 19 of the leg panel abuts to support the weight of the panel. It will be understood that the pallet 15 can be made with single flute corrugated board for both layers, or with any combination of single and double flute or other multiple flute board depending upon the strength required or of uncorrugated paper board or sheet material; and this is true also of the modified forms of the invention shown in the other figures.

Figures 4 and 5 show a modified construction which is similar to that described in Figures 1—3 except that the free end of the leg panel is held in position by a different construction. In Figures 4 and 5 a pallet 35 has leg panels 37 severed from the material of the pallet along sides 38, 39 and 40. A fourth side 41 of the leg panel remains connected to the pallet and has a score line along which the leg panel 37 hinges to swing away from the bottom of the pallet 35 in the same way as already described in the previous figures.

The pallet 35 is made with three layers including a top layer 44 which is preferably imperforate, a middle layer 46 and a bottom layer 48. Each of the layers 44, 46, 48 is shown as made of two-ply (double wall) corrugated paper board. The leg panel 37 is displaced from the bottom layer 48 only; but there is a similar opening in layer 46 with notches 52 in its opposite side edges, the length of these recesses or notches 52 being indicated by a brace marked with the reference character 54. The bottom layer 48 has recesses 56 along the opposite edges of the space from which the leg panel 37 is displaced, but these recesses 56 are not as long as the recesses 54, thus leaving a portion of each notch 52 which is beyond the lower and shorter notches 56 forming, in effect, an undercut region 58, best shown in Figure 5.

The free end 39, of the leg panel 37, has a score line 60 along which the leg panel is folded to obtain a horizontally-extending portion 62 (Figure 5) which fits snugly into the undercut region 58 to hold the leg panel in operative position.

Figure 6 shows a construction similar to Figure 5, but Figure 6 has a leg panel 67, displaced from a bottom layer 69 of the pallet, reinforced by an inner leg 72 displaced from an intermediate layer 74 of the pallet. In the construction illustrated, the pallet is made with a double flute top layer 79, and single flute layers 69 and 74 for the bottom and intermediate layers, respectively; but it will be understood that the top layer can be single flute board and the other layer double flute or any desired combinations depending upon the required strength, as previously explained. The leg panel 72 may be secured to the panel 67, or not, as desired, and it is preferably made shorter than the leg panel 67 so that

only the panel 67 has a horizontally-extending portion 75 fitting into an undercut region 76 between the lower layer 69 and a top layer 79 of the pallet shown in Figure 6.

Figure 7 shows a construction similar to Figure 6 except that the reinforcing on the leg panel 67 is formed by separate strips 81 and 82 connected to the portions of the panel 67 on opposite sides of its score line 24. The strips 81 and 82 are attached to the leg panel 67 by adhesive, but they are not attached to the intermediate layer 74 of the panel.

Figures 8—10 show another modified construction of the invention in which the pallet can be made from a single layer of sheet material; and the leg panels are displaced from the pallet, leaving openings through the top surface of the pallet. This construction shown in Figures 8—10 is the most economical of all those illustrated and is useful for pallets that support sheet material or cartons substantially larger than the openings left by displacement of the leg panels from the pallet.

Figures 8—10 show a pallet 85 made of a single layer of two-ply paper board; more or fewer plies can be used. A leg panel 87 is severed from the pallet along sides 88, 89 and 90. The leg panel 87 remains connected to the pallet 85 along a line 91 which is preferably a score line. The opposite sides 88 and 90 converge toward one another as they extend away from the side 89 which forms the free end of the leg panel 87. There is a score line 94 extending between the opposite sides 88 and 90 and substantially parallel to the hinge line 91 for folding the leg panel 87 back on itself to form a leg for the pallet in the same manner as in the other modifications, and as shown in Figure 9.

There are notches or recesses 96 in the edges of the space from which the leg panel 87 is displaced, and the free end 89 of the leg panel 87 is inserted into these recesses 96 to prevent its transverse displacement in the same manner as already described in connection with Figures 1—3. However, in the construction shown in Figures 8—10, there is no overlying layer of the pallet above the recesses 96 but one or more layers can be added for additional strength, if desired. The free end 89 of the leg panel 87, is made substantially wider than the distance between the ends of the opposite recesses 96. The portions of the free end 89 which are located beyond the recesses 96 are designated by the reference character 98 and they are notched out so that the free end 89 between them can extend into the recesses 96 and up to the top level of the pallet platform while the edge portions 98 abut against the bottom face of the pallet 85.

The extent to which the end portions 98 are notched out is preferably equal to the thickness of the pallet, as measured along the slope of the leg panel 87 when in operative position, so that the free end 89 is flush with

the top surface of the pallet when the leg panel is in operative position. This has the advantage of transmitting part of the load on the pallet directly to the leg panel 87 by contact of the load with the portion of the free end 89 which is located between the notched-out end portions 98. This construction with the free end 89 flush with the top surface of the pallet between the notched-out end portions 98 is best shown in Figure 10.

On one side of the panel 87, the notched-out end portion 98 is formed by severing the panel from the pallet platform, as shown at the lower notched-out end portion in Figure 8. At the other side of the free end 89, the notched-out end portion 98 is formed by bending over a tab 99 which is hinged to the leg panel along a score line 100. This tab 99 contacts with the bottom face of the platform of the pallet 85 and it can be glued or otherwise secured to the bottom face of the platform when the pallet is to be set up for greatest strength and repeated use.

The sides of the leg panel 87, to the left of the score line 94 in Figure 8, are shown parallel. This construction reduces the distance between the ends of the opposite notches 96 and thus reduces the necessary width of the free end 89 of the leg panel, but it will be understood that the sides of the leg panel 87 near the hinge line 91 can diverge toward the hinge plane if desired, and it will be understood further that the other modifications of the invention can have parallel sides near their hinge lines, if desired.

Figure 11 shows part of a pallet 120 having a platform 122 supported by a number of different legs 124, 125 and 126. Each of these legs is preferably constructed of material displaced from the platform 122 but connected with the platform along a hinge line. In the construction illustrated, the platform 122 is made of four laminations of corrugated paperboard with the outer laminations thinner than the inner laminations, but it will be understood that this is merely illustrative of the laminated construction. Although intended for corrugated paper, other materials can be used to make equivalent pallet constructions.

The leg 124 has a panel 128 which is connected to the platform along a hinge line having a score 130. At its lower end, the panel 128 connects with another panel 132 along a score area 134 which extends across the width of the leg. This score area 134 is formed by crushing the plies of the panels 128 and 132 to a thinner section at the score area 134, as best shown in Figure 12. Crushed material may be removed but it is preferable to leave it in place. The upper plies of the panels 128 and 132 are cut along planes 136 so that the material over the area 134 can be compressed without pulling down adjacent material of the panels 128 and 132. The panel may have similar cuts at right angles to the

cuts 136 and at spaced regions along these cuts to prevent the ends of crushed laminations from moving beyond the leg areas during the crushing operation. The depth to which the material is cut along the planes 136 depends upon the thickness of the laminations, the number of laminations and the angle to which the panels 128 and 132 must be moved with relation to one another in setting up the leg 124. At least the lowest lamination should not be cut.

When the panels 128 and 132 are moved from the position shown in Figure 12 to that shown in Figure 11, there is some further crushing of the upper edge portions of the top laminations and to a lesser extent the lower laminations are crushed to form the angular leg 124. This produces a strong leg because the panels 128 and 132 are in contact with one another over a large extent at the area 134; and the lower ends of the panels 128 and 132 are securely held together by the portion of the original material which was not cut along the planes 136.

The panel 132 extends upwardly to the platform 122, and in the construction shown it extends through the opening in the platform from which the material for the leg was displaced. At its upper end, the panel 132 has a tab 138 extending across a portion of the top surface of the platform 122. This tab 138 is formed by crushing all of the laminations at the upper end of the panel 132 to produce a relatively thin tab but without removing any material and thereby retaining the strength of the tab 138.

When a load is placed on the pallet 120, the load clamps the tab 138 against the top surface of the platform 122 and thereby holds the panel 132 from folding and thus maintains the leg 124 in its working relation to the platform. If the load consists of sheet material stacked upon the pallet, then a substantial portion of the weight will rest upon the tab 138 for holding the tab clamped against the platform. If the load consists of small pieces contained within a box, then the bottom of the box will rest upon the tab 138. In those cases where the load is made up of a number of stacks of substantially smaller size than the platform, or for any other reason the tab 138 may have no weight upon it, then a flat panel, such as a loose sheet of corrugated paperboard, is placed on the platform 122 to insure a pressure on the tab 138 when the platform is loaded.

The leg 125 is similar to the leg 124 except at the bottom of the leg where the panels are connected. In the leg 125, there are panels 141 and 142 corresponding to the panels 128 and 132 of the leg 124. When the pallet is manufactured, a cut 144 is made at the juncture of the panels 141 and 142, the cut being made from the underside of the pallet. This cut 144 is shown extending through three

laminations of the material, but the depth of the cut will depend upon the thickness of the laminations and upon how sharply the leg is to be bent.

5 When the leg 125 is set up, the panels 141 and 142 are bent along the line of material remaining above the cut 144 to form a leg with the bottom shape shown in Figure 11. When the leg 125 is loaded, however, the
10 laminations in contact with the ground or floor will crush to some extent and thus provide larger areas of contact with the floor or ground. Because of the angular relation of the panels 141 and 142, the pallet load tends to
15 push the lower ends of these panels together, and it is not necessary, therefore, for them to have a strong hinged connection between them. The upper end of the panel 142 has a tab 138 similar to the tab on the panel 132 of
20 the leg 124.

The leg 126 is similar to the leg 124, though facing in the opposite direction from its score line 130, except that the lower end of the leg has a score area 148 which is provided by crushing the laminations at the juncture of the panels 151 and 152. This score
25 area 148 differs from the score area 134 of Figure 12 in that no cuts are made through the laminations and this results in some pulling down of the top laminations on both sides of the score area 148. Although shown on a
30 platform having four laminations, the construction of Figure 14 is more suitable for pallets made of thinner material, such as pallets with three or fewer laminations. The leg 126 has a tab 138 at its upper end.

Figure 15 shows a leg construction which is similar to the leg 124, the panels being indicated by the same reference characters with a prime appended. This leg 124' has its
40 panel 128' extending vertically, and has the other panel 132' at an acute angle. All of the legs shown in Figure 11 can be constructed in this way with one panel vertical, if desired.

45 Figure 16 shows the way in which the legs are displaced from the platform 122 and folded into working position. The construction shown in Figure 16 has panels 156 and 157 joined together along a score area 160. These panels fold into the positions shown in
50 solid lines to form a leg 162. The panel 156 has tabs 164 at its upper end in contact with the top surface of the platform 122.

Figure 17 is a top view of the platform 122 and shows the shape of the panels 156 and 157, and the location and shape of the tabs 164. The material for the leg 162 is cut from the platform 122 along the solid lines shown
55 in Figure 17, but remains attached to the platform along the score line 130 which is indicated in dotted lines. The score area 160 will be wide or narrow, depending upon the thickness of the panels and whether the panels are to be folded according to the different ex-
60 pedients illustrated in Figures 12-14. The

expression "score area" is used herein to indicate a score which may be a region partially cut through and of narrow extent as shown in Figure 13, or of very wide extent, as shown in Figures 12 and 14. Various other
70 kinds of score areas can be used with some features of this invention.

Referring again to Figure 17, the side edges of the panel 157 are cut to provide notches 168 in the platform 122. The panel 156
75 diverges toward an upper edge 170 so that the upper edge of this panel 156 is wide enough to extend into the notches 168.

When the leg 162 is folded into a working position, the notches 168 are engaged by the
80 upper edge 170 and they hold the upper edge of the panel 156 against movement parallel to the platform 122. Since the pallet is originally unloaded, means are also provided for preventing the upper edge 170 from moving
85 upward through the opening in the pallet and this means consists of depressed portions 172 at opposite ends of the upper edge 170 and in position to contact with the bottom of the pallet just beyond the notches 168.
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Openings 174 are punched through the platform 122 for receiving the tabs 164. These tabs 164 are substantially longer than the remainder of the panel 156 and they are crushed at the time that the panels are cut out from
95 the platform so as to leave only thin obstructions on the top surface of the platform 122. Although it is preferable to have the tab 164 bent outwardly across the platform 122 beyond the openings 174, as shown in Figure
100 11, the tab 164 can be bent the other way so as to form an acute angle with the panel 156 when the leg is set up. It is apparent from Figure 17 that there is a solid area of the platform 122 extending in both directions
105 from the opening 174 for contact with the tab 164 regardless of which way the tab is bent.

This construction with tabs 164 extending into openings 174 can also be used for attaching
110 legs which have no other connection with the panel, but have tabs 164 at both sides extending into corresponding openings 174 in the pallet.

Figure 18 shows a construction which
115 differs from Figure 17 in the notch construction, and similar parts are indicated by the same reference characters as in Figure 17 with a prime appended. Figure 18 has a notch 168' at each side of a panel 157' and
120 this notch 168' is long enough to receive tabs 164'. Thus, in the construction shown in Figure 18, the longer notch 168' takes the place of both the notch 168 and the opening 174 of Figure 17.
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Figure 19 shows another modification of the construction shown in Figure 17. In this second modified construction, a panel 157a is displaced from the platform 122 along a line
130 which leaves a notch 168a similar to the notch

168 of Figure 17; but instead of having an opening 174 in line with the notch 168, as in Figure 17, the construction shown in Figure 19 has an opening 174a offset from the notch 168a in one direction, but preferably with the outer limit of the notch 168a in substantial alignment with the inner limit of the opening 174a. An upper edge 170a of a panel 156a engages in the notch 168a and a tab 164a has to be long enough to extend first across the bottom of the platform and then upwardly through the opening 174a and then across the top of the platform as with the other tabs previously described.

There is a cut 177 increasing the length of the tab 168a so that the upper edge 170a of the panel 156a can extend through the notch 168a to the top level of the pallet platform and still permit the tab 164a to be bent across the bottom of the platform to reach the opening 174a. It will be understood that the construction shown in Figures 17 and 18 are preferably symmetrical and that only one side of the panels is shown in order to simplify the drawing.

Figure 20 is a sectional view, on the line 20—20 of Figure 17, but showing the leg in set-up position. This figure shows the way in which the tab 164 extends through the opening 174.

Figure 21 shows the way in which one of the depressed portions 172 bears against the bottom surface of the pallet platform 122; and Figure 22 shows the way in which the upper edge 170 extends through the opening in the platform 122 to a level flush with the top surface of the platform so as to have direct contact with the load upon the pallet.

Figure 23 shows the hinge area 134 with four cuts 136 extending along the length of the hinge line to permit some movement and readjustment of the severed plies as the panels of the leg are folded into angular relation with one another to bring the leg into working position under the pallet. Other cuts 179 are similar in depth to the cuts 136, but these other cuts extend transversely of the length of the hinge line and permit some readjustment of the positions of the crushed areas of the laminations lengthwise of the hinge line.

Figure 24 shows another modified construction in which a cut is made through most of the thickness of a pallet platform 184 along a single plane of severance 186; and on one side of this plane of severance, the plies of corrugated sheet material of the pallet are crushed to produce a sloping surface 188. This sloping surface 188 is on the portion of the pallet that remains horizontal, and the uncrushed plies on the other side of the plane 186 are part of the material that swings down into the dotted-line position to form one side of a triangular leg as in the other modifications. The uncrushed ends of the leg seat against the substantial area provided by the

sloping surface 188. This construction shown in Figure 24 may be used as a substitute for the construction at the score line 130 of Figure 11 or at any other score lines where hinging of the material is desired.

The preferred embodiments of the invention have been illustrated and described, but changes and modifications can be made and some features of the invention can be used in different combinations without departing from the invention as defined in the claims.

WHAT I CLAIM IS:—

1. An industrial pallet comprising a sheet material platform having a plurality of leg panels made of material displaced from the platform and severed therefrom along three sides of each panel and adapted to hinge with respect to the platform along the fourth side which remains connected to the platform, each of the leg panels having a score line extending from one side to the other of the leg panel intermediate the ends thereof and along which the leg panel is folded to form a leg with the score line at the bottom of the leg, the side edges of the leg panel converging as they extend towards a mid region, and the edges of the pallet space from which the leg panel is severed having a convergence toward a mid region and the platform having cutouts therein adjacent to and wider than the mid region for receiving insertions of portions of the edge of the free side of the leg panel most remote from the fourth side where the leg panel is hinged to the platform.

2. An industrial pallet as claimed in Claim 1 in which the leg panels are displaced from a bottom layer of the platform, and an upper layer of the platform extends across the spaces in the lower layer from which the leg panels are displaced.

3. An industrial pallet as claimed in either of the preceding claims in which the pallet is made with at least three layers, and there are recesses for the free side of the leg panel in the bottom layer and in the next layer above, and the recesses in said next layer above are longer than in the bottom layer so that portions of the bottom layer overlap part of the recesses in the next layer above to form pockets, and there is an area of the leg panel along the free end of said leg panel which tucks into the pockets of the recess when the leg panel is folded into operative position.

4. An industrial pallet as claimed in Claim 3 in which there are spaces of the same general out-line as the leg panel in both the bottom layer and the next layer above, but the panel itself is formed of material of the bottom layer only.

5. An industrial pallet as claimed in Claim 3 in which the leg panel is made of material displaced from both the bottom layer and the next layer above, but the area of the leg panel which tucks into the undercut of the recess is

formed of material displaced from the bottom layer only.

5 6. An industrial pallet as claimed in either of Claims 3 and 4 in which the leg panel is attached to the bottom layer only but is re-
10 reinforced by separate strips of corrugated sheet material secured to the leg panel on opposite sides of the score line which is set at the bottom of the leg panel when said panel is in operative position.

15 7. An industrial pallet as claimed in any of the preceding claims in which the legs have top surfaces that bear against the under side of the platform, and there is a tab on each leg with a surface parallel to a bottom surface of the platform and in position to contact with said bottom surface and to be connected thereto so as to assist in holding the leg in position on the pallet.

20 8. An industrial pallet as claimed in Claim 1 in which the leg panels are displaced from the full thickness of the platform.

25 9. An industrial pallet as claimed in any of the preceding claims in which a portion of each leg extends through an opening in the platform and has its upper edge substantially flush with the top surface of the platform to bear against a load on the pallet.

30 10. An industrial pallet as claimed in any of the preceding claims in which a part of each leg bears against the underside of the platform and has a tab extending parallel to a surface of the platform for holding the leg in working position.

35 11. An industrial pallet as claimed in any of the preceding claims in which a part of each leg bears against the underside of the platform and has a tab extending parallel and across a top surface of the platform on which a load rests whereby the tab is held in friction contact with the top surface of the platform by the weight of the load.

40 12. An industrial pallet as claimed in Claim 11 in which the pallet is made of a plurality of laminations of corrugated sheet material, and each leg is of reduced thickness both at the connection of the panels to one another and over the area of the tab which overlies the top surface of the platform.

50 13. An industrial pallet according to Claim 1 in which the leg panels are made of a plurality of laminations of sheet material and

some of the laminations are severed along the score line but the severance extends only part-
way through the thickness of the laminations at said score line. 55

14. An industrial pallet as Claimed in Claim 13, in which the score line is of sub-
stantial transverse width and has two parallel lines of severance at its opposite sides, and the laminations on the score line between the two lines of severance have the laminations still in place but at least some of the lamina-
tions flattened out to reduce the thickness of the material at the hinge line. 60 65

15. An industrial pallet as claimed in Claim 13, in which the hinge line is of sub-
stantial transverse width and has two parallel lines of severance at its opposite sides, and material is removed from at least some of the laminations between the lines of severance. 70

16. An industrial pallet as claimed in Claim 13 in which the laminations on one side of the line of severance are crushed on a slope.

17. An industrial pallet as claimed in Claim 1 in which part of the upper edge of each leg is substantially flush with the top surface of the platform, other parts of each leg bear against the underside of the platform and another part of each leg extending through a hole in the platform has a tab at its upper end that lies flat on the top surface of the platform where it is held in position by the load on the platform. 75 80

18. An industrial pallet as claimed in Claim 1 in which each leg comprises at least two portions which extend downwardly and converge towards one another, these portions being spaced from one another at their upper edges and adjacent to one another at their lower edges whereby the leg is of substantially triangular cross section, at least one edge of each portion being connected with the adjacent pallet structure along a hinge line where the material is of less thickness than at other parts. 85 90 95

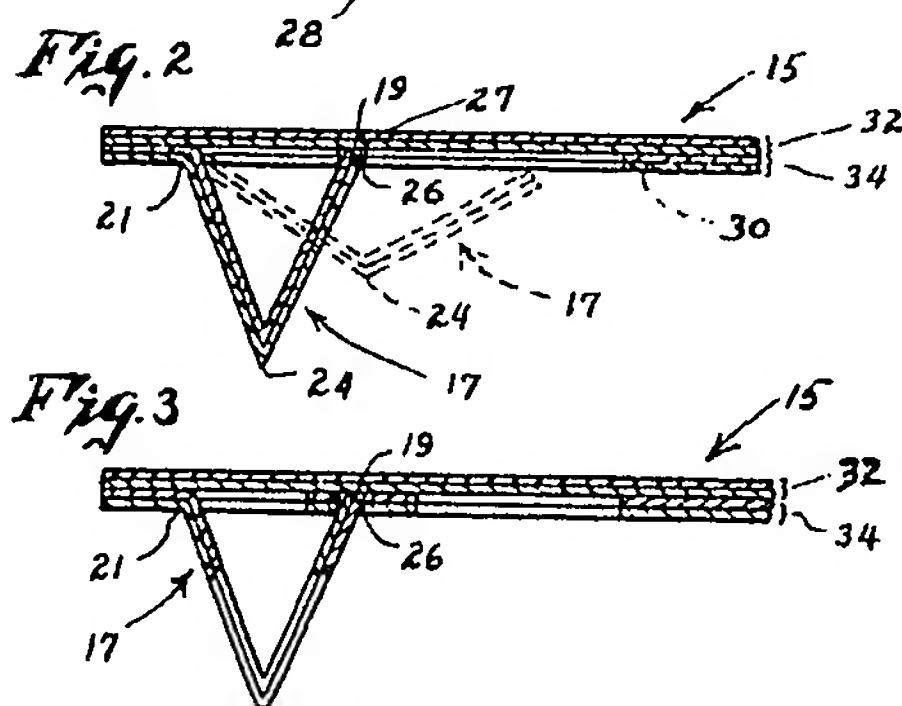
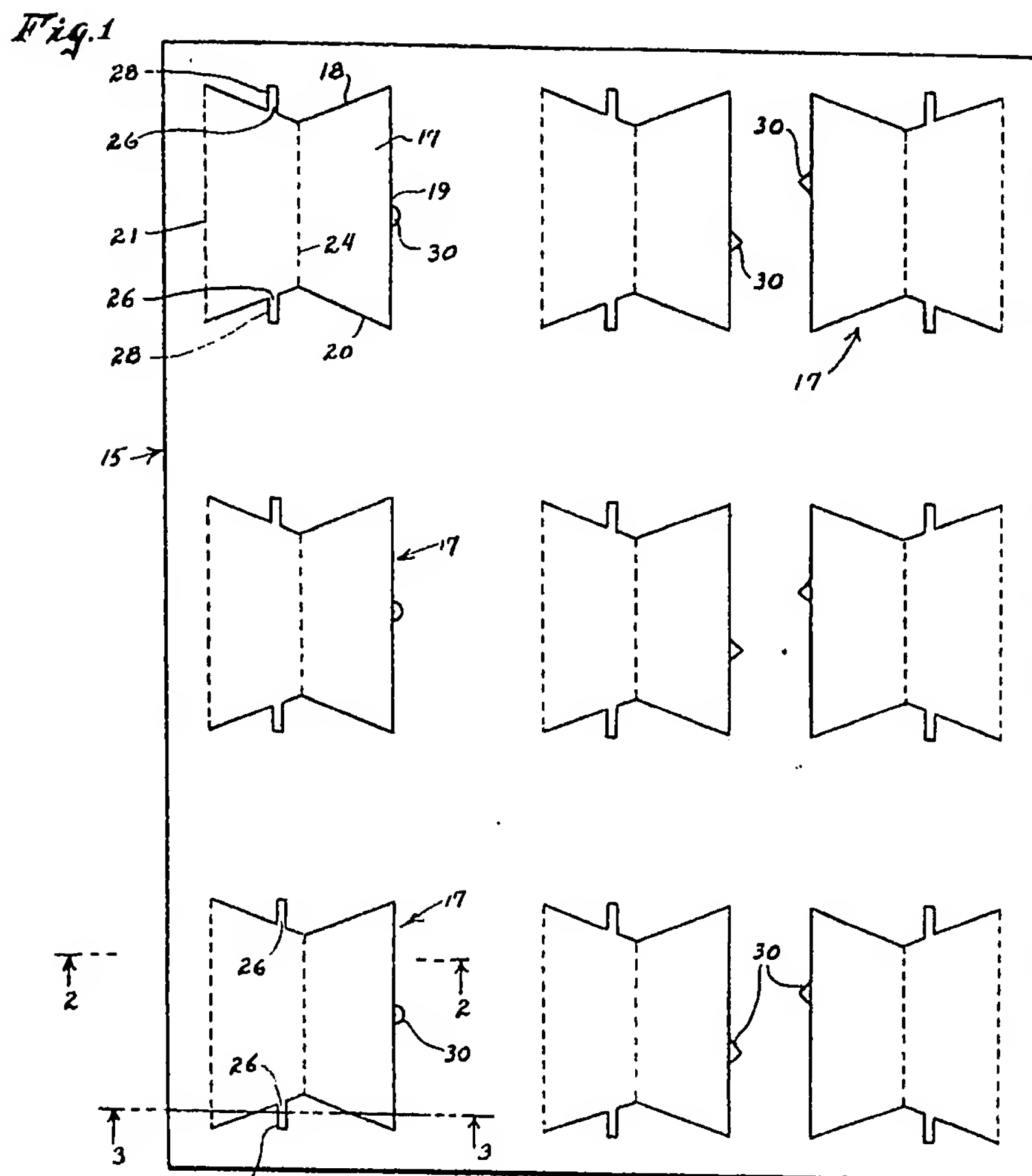
19. Industrial pallets substantially as described with reference to any of Figs. 1 to 3, 4 to 7, 8 to 10, 11 to 15, 17, 18 or 19 of the accompanying drawings. 100

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329, High Holborn, London, W.C.1.



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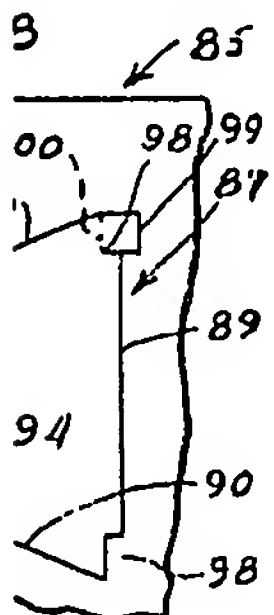
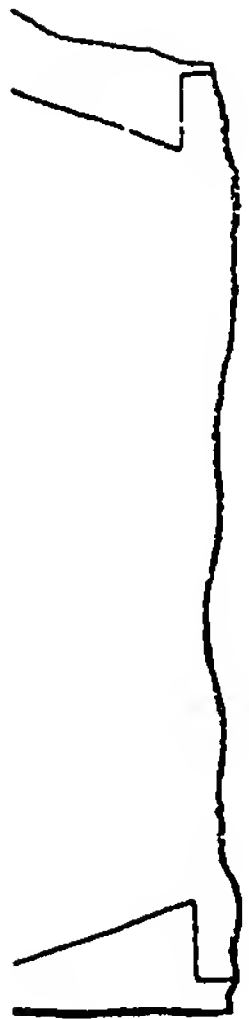
COMPLETE SPECIFICATION

3 SHEETS

This drawing is a reproduction of
the Original on a reduced scale.

SHEETS 2 & 3

4



9

10

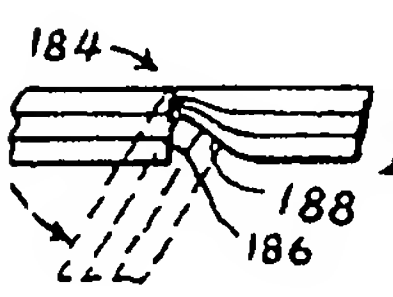
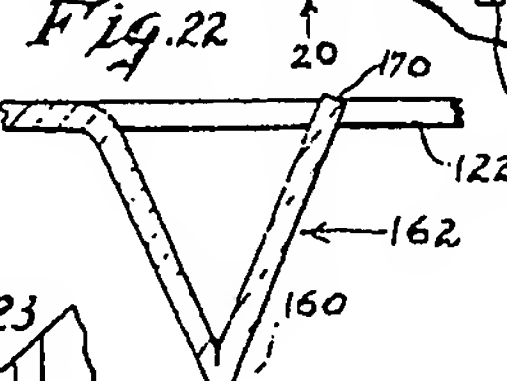
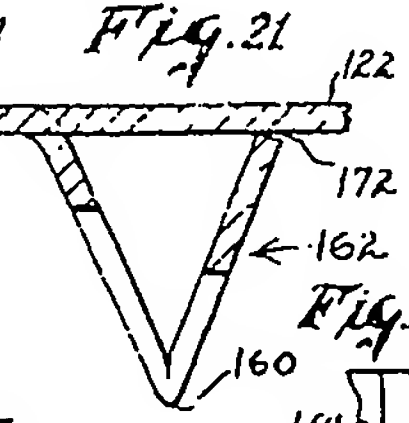
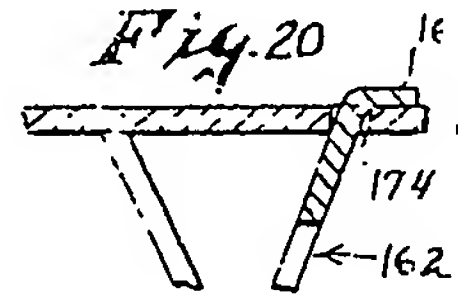
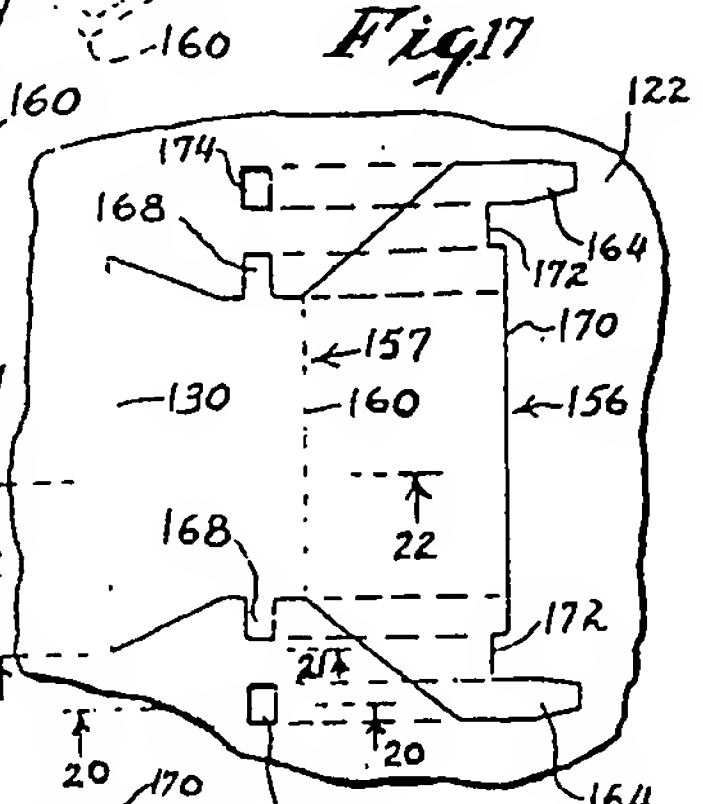
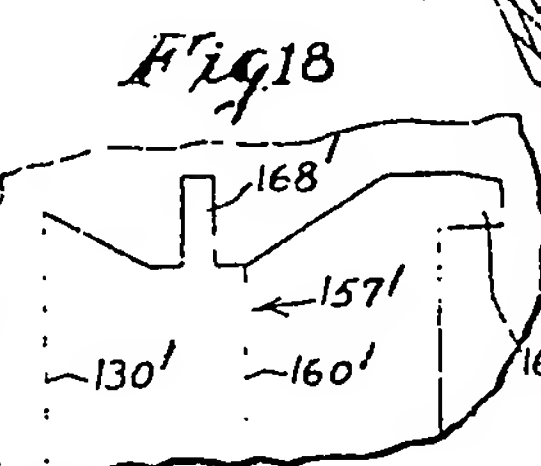
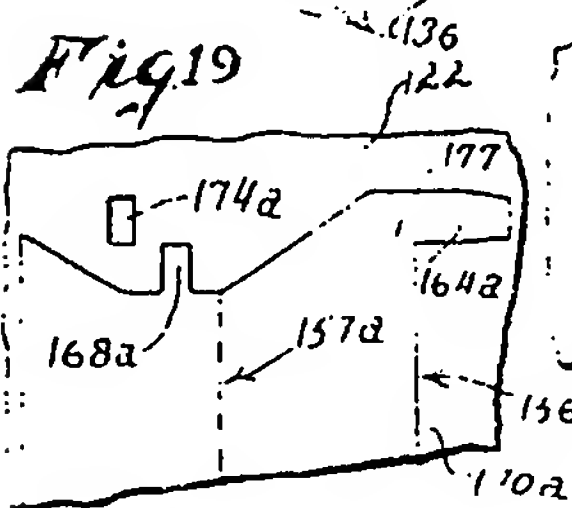
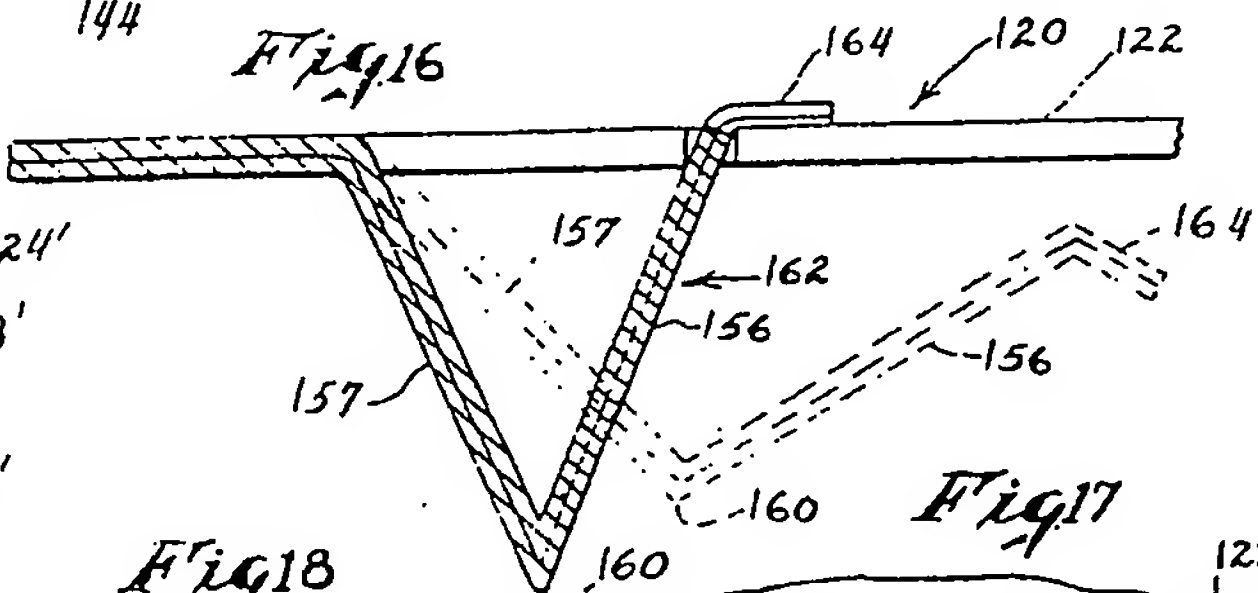
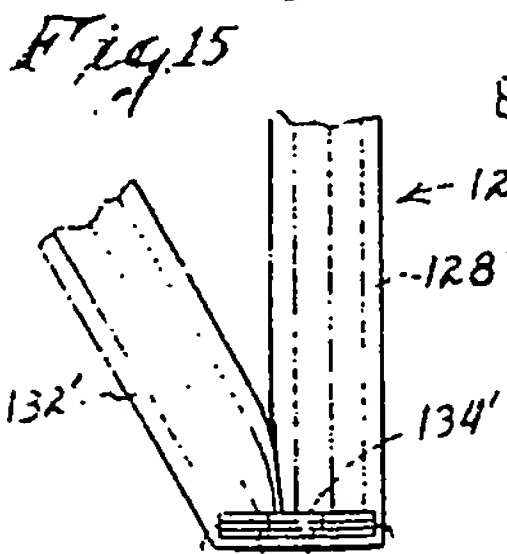
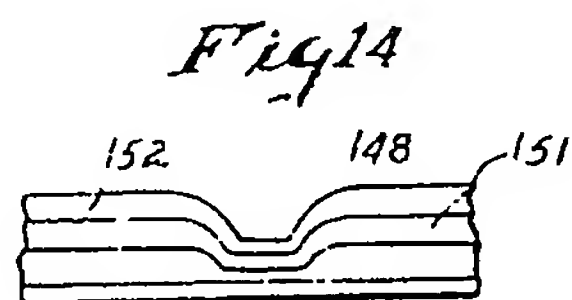
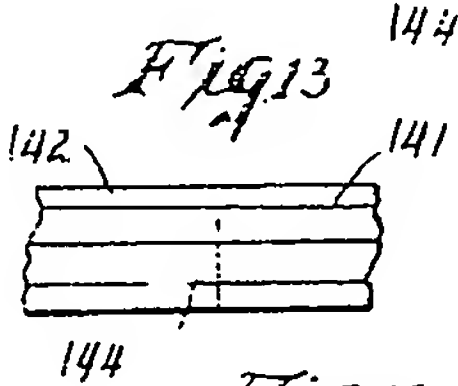
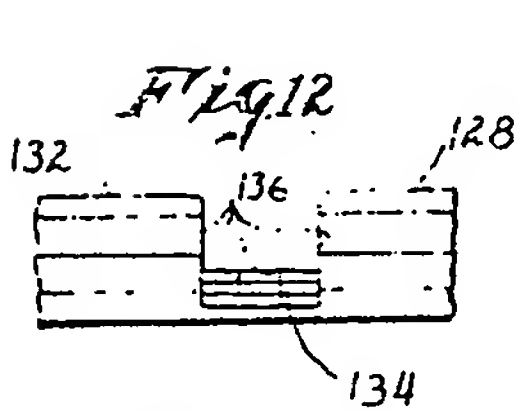
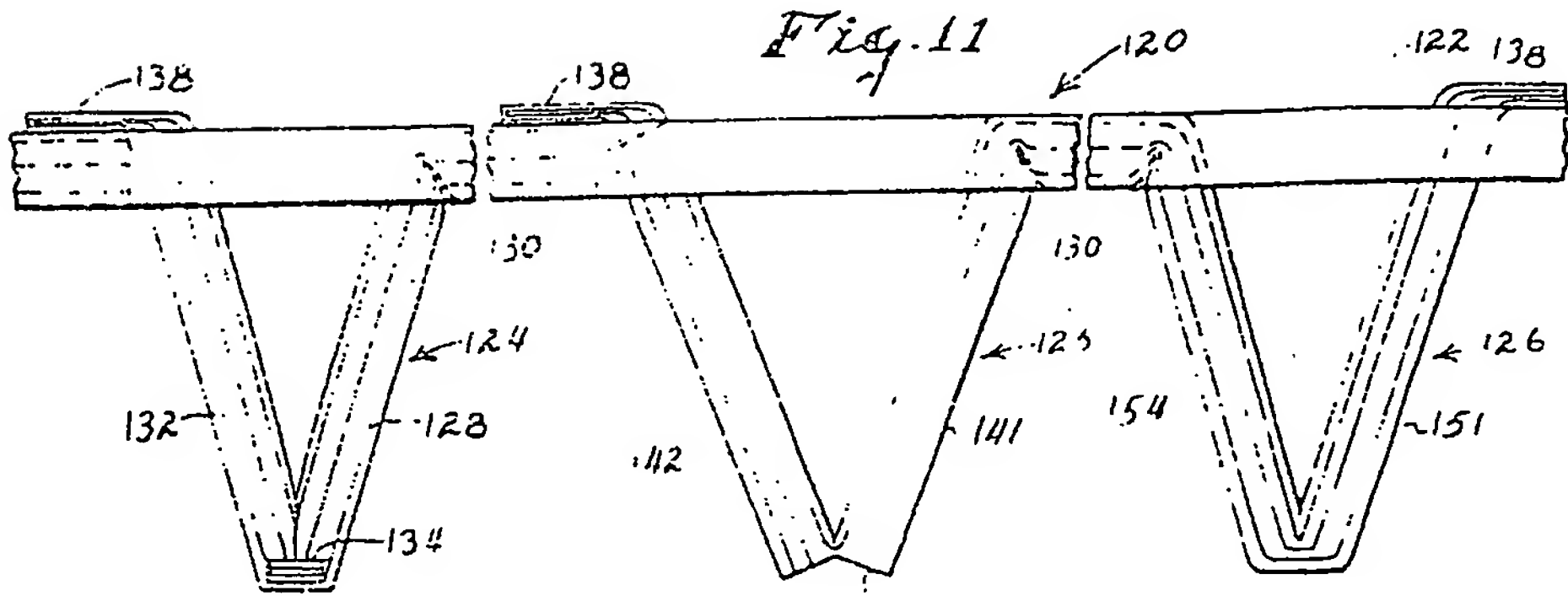


Fig. 24

